Subject: Re: Do more sensitive drivers offer less distortion at "normal" listening levels?
Posted by Wayne Parham on Mon, 25 Oct 2004 17:40:35 GMT
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Most harmonic distortion from speakers comes from asymmetry in the motor. Generally speaking, the less movement that's required, the lower the distortion. So since high efficiency speakers in horns don't have to move as far for the same SPL, they generally offer lower harmonic distortion.There are other tradeoffs and things to consider, as is true of all things. For one, high-efficiency designs are generally reduced in bandwidth and sometimes response isn't as flat. If you optimize for efficiency, you generally de-optimize other parameters.Everything is a series of compromises. You want top speed? You might trade fuel economy. You want max output? You might lose some response at the extremes. The best solutions I've found are those that give me many of the advantages of horns while not sacrificing too much in response. My solutions all seem to be around 100dB/W/M in quarterspace or eighthspace, which is pretty high efficiency but not fully optimized in that direction.